LPDES PERMIT NO. LA0005762 (Agency Interest No. 4384)

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. Company/Facility Name: Shell Chemical LP
Shell Chemical Plant – West Site
P.O. Box 10
Norco, Louisiana 70079

II. Issuing Office: Louisiana Department of Environmental Quality (LDEQ)
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Date Prepared: March 21, 2008

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.4901, 4903, and 2301.F.

IV. Permit Action/Status:

A. Reason For Permit Action:

Proposed reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.

In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes

only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903 and will not have dual references. In addition, state standards (LAC 33:IX. Chapter 11) will not have dual references.

B. LPDES permit: Permit effective date: October 1, 2002
Permit expiration date: September 30, 2007
Permit modification dates: March 26, 2003 and January 3, 2006

EPA has not retained enforcement authority.

C. Application submittal date: Application submitted on April 4, 2007, application addendum received May 5, 2008, additional information (email) dated May 27, 2008.

V. Facility Information:

A. Location – 16122 River Road, Norco, St. Charles Parish (Latitude 29°59'45", Longitude 90°24'35").

B. Applicant Activity -

According to the application, Shell Chemical LP, is a bulk organic chemical, resins, and calcium chloride manufacturing facility. Shell Chemical Plant - West Site operates a wastewater treatment system for discharges of process, utility and miscellaneous wastewaters from the Shell site. The wastewater treatment system also receives wastewaters from several co-located companies (Motiva Enterprises, LLC, Hexion Specialty Chemicals, and Union Carbide)

Below is a summary of the production information for the Motiva Enterprises, LLC/Norco Refinery:

Process	Proposed Production (1000 bbl/day)
Atmospheric Crude Distillation	248.0
Crude Desalting	248.0
Fluid Catalytic Cracking	114.2
Vacuum Crude Distillation	90.0
Delayed Coking	25.0
Thermal Cracking	282.2
Hydrotreating	205.0
Hydrocracking	36.0

H_2SO_4 Alkylation	17.4
Catalytic Reforming	61.0
Contaminated Stormwater	0.892 MGD
Ballast water flow	0.014 MGD

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

Guidelines	Reference
1. Organic Chemicals, Plastics, and Synthetic Fibers	40 CFR 414, Subparts F, G, H, and I
2. Refinery Guidelines	40 CFR 419, Subpart C

Other sources of technology based limits:

- LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)
- Best Professional Judgement

D. Fee Rate -
1. Fee Rating Facility Type: Major
2. Complexity Type: VI
3. Wastewater Type: II
4. SIC code: 2869, 2819, 2821, 4953

E. Continuous Facility Effluent Flow - 10.66 MGD (30-day max)

VI. Receiving Waters: Mississippi River (Outfall 001) and Lake Pontchartrain via Engineers Canal (Outfalls 003, 004, 005, 006 and 007)

Mississippi River:

A. TSS (15%), mg/L: 30.0 mg/l*
B. Average Hardness, mg/L $CaCO_3$: 153.0 mg/l*
C. Critical Flow, cfs: 141,955 *
D. Mixing Zone Fraction: 1/3 *
E. Harmonic Mean Flow, cfs: 366,748*
F. River Basin: Mississippi River, Segment No.: 070301
G. Designated Uses: primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply

* Stream Data information based upon the following: Water Quality Management Plan, Volume 5A, 1994; LAC 33:IX Chapter 11, and from recommendations from the Engineering Section. Hardness and 15% TSS data come from the monitoring station #48 on the Mississippi River listed in Hardness and TSS Data for All LDEQ Ambient Stations for the Period of Record as of March 1998, LeBlanc.

Lake Pontchartrain via Engineers Canal:

A. River Basin: Lake Pontchartrain, Segment No.: 041202
B. Designated Uses: primary contact recreation, secondary contact recreation, fish and wildlife propagation, and outstanding natural resource water

VII. Outfall Information:

Outfall 001

A. Type of wastewater – The continuous discharge of treated process wastewaters, process area stormwater, utility wastewater (consisting of cooling tower blowdown and boiler blowdown), incinerator scrubber blowdown, contaminated groundwater, landfill leachate and sanitary wastewater

B. Location – at the point of discharge from the Norco Effluent Treater prior to discharge to the Mississippi River (Latitude 29°59'49", Longitude 90°25'30").

C. Treatment – Treatment of wastewater consists of:

- steam stripping (of sour water only for removal of sulfide, ammonia and phenols)
- neutralization
-API separator
- equalization
- primary clarification
- aerobic digestion (biological treatment)
- chemical conditioning/flocculation
- filtration by sand filters (as needed)
- incineration of solids

D. Flow – Continuous: 10.66 MGD (30-Day Max)

E. Receiving waters – Mississippi River

F. Basin and segment – Mississippi River Basin. Segment 070301

G. Effluent data – See Appendix C

Outfall 003

A. Type of wastewater – The intermittent discharge of low contamination potential non-process area stormwater

B. Location – At the point of discharge of Ditch # 2 north of F Street prior to the property fence line, prior to combining with other waters (Latitude 30°00'22", Longitude 90°25'13").

C. Treatment – None

D. Flow – Intermittent and variable, estimated average flow is 0.23 MGD

E. Receiving waters – Lake Pontchartrain via Engineers Canal

F. Basin and segment – Lake Pontchartrain Basin, Segment 041202

Outfall 004

A. Type of wastewater – The intermittent discharge of low contamination potential non-process area stormwater

B. Location – At the point of discharge of Ditch # 4 north of F Street prior to the property fence line, prior to combining with other waters (Latitude 30°00'23", Longitude 90°25'18").

C. Treatment – None

D. Flow – Intermittent and variable, estimated average flow is 0.62 MGD

E. Receiving waters – Lake Pontchartrain via Engineers Canal

F. Basin and segment – Lake Pontchartrain Basin, Segment 041202

Outfall 005

A. Type of wastewater – The intermittent discharge of low contamination potential non-process area stormwater

B. Location – At the point of discharge of Ditch # 5 north of F Street prior to the property fence line, prior to combining with other waters (Latitude 30°00'26", Longitude 90°25'23").

C. Treatment – None

D. Flow – Intermittent and variable, estimated average flow is 0.62 MGD

E. Receiving waters – Lake Pontchartrain via Engineers Canal

F. Basin and segment – Lake Pontchartrain Basin, Segment 041202

Outfall 006

A. Type of wastewater – The intermittent discharge of low contamination potential non-process area stormwater

B. Location – At the point of discharge of Ditch # 6 north of F Street prior to the property fence line, prior to combining with other waters (Latitude 30°00'28", Longitude 90°25'25").

C. Treatment – None

D. Flow – Intermittent and variable, estimated average flow is 0.30 MGD

E. Receiving waters – Lake Pontchartrain via Engineers Canal

F. Basin and segment – Lake Pontchartrain Basin, Segment 041202

Outfall 007

A. Type of wastewater – The intermittent discharge of low contamination potential non-process area stormwater

B. Location – At the point of discharge of Ditch # 1 north of F Street prior to the property fence line, prior to combining with other waters (Latitude 30°00'21", Longitude 90°25'11").

C. Treatment – None

D. Flow – Intermittent and variable, estimated average flow is 0.20 MGD

E. Receiving waters – Lake Pontchartrain via Engineers Canal

F. Basin and segment – Lake Pontchartrain Basin, Segment 041202

VIII. Proposed Permit Limits and Rationale:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. PERMIT CHANGES

1. Outfall 001 – Mass limitations have increased based upon new production and flow data.

2. Outfalls 003, 004, 005, 006, and 007 – Total Copper monitoring has been added due to the receiving waterbody's 303(d) impairment.

3. Outfall 001 – The biomonitoring dilution series has changed based upon new flow information.

4. Part II - A condition has been added in Part II (Paragraph L) requiring the permittee to submit addition effluent sampling data for Outfalls 003, 004, 005, 006 and 007 as required by LAC 33:IX.2511.C.1.a.v.

B. REQUESTED CHANGES

1. In the Motiva Enterprises, LLC /Norco Refinery renewal application, it was requested that the Outfall 002 oil & grease allocations between Motiva and Shell be changed to 55% and 45%, respectively. Reference to this change in allocations is mentioned in Shell's renewal application. After speaking with consultants for Motiva, it was indicated that if this Office approved the reporting of zero (0) for oil & grease when sampling results were below detection, the change in the allocations would not be needed. This Office approved the above mentioned reporting of zero (0) for oil & grease; therefore, no change in the oil & grease allocations will be made.

2. The permittee requested that they be allowed to report zero (0) for Oil & Grease in lieu of less than (<) Minimum Quantification Level (MQL) when reporting a non-detect on their DMRs. This Office concurs with this request. In accordance with EPA Method 1664, Revision A, the minimum level of quantification is 5.0 mg/l. Therefore, the draft permit has included oil & grease (with an MQL of 5.0 mg/l) in Part II, Paragraph J. The permittee may report zero (0) for Oil & Grease if it is not detected in laboratory analysis, as long as an EPA approved method (which specifies a minimum level of quantification of 5.0 mg/l) is being used by the laboratory.

C. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgement) in the absence of guidelines, or on a combination of the two. The following is a rationale for the limitations established in the permit.

Motiva Enterprises LLC is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation	Guideline
Organic Chemicals, Plastics, and Synthetic Fibers	40 CFR 414, Subparts E, G, H, and I
Refinery	40 CFR 419, Subpart C

WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limitations by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008.

In accordance with 40 CFR 122.44(d)(1)/LAC 33:IX.2707.D.1., the existing discharge was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limitations:

Hexachlorobenzene (Monthly Average only)

Minimum quantification levels (MQLs) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. They are also listed in Part II of the permit.

To further ensure compliance with 40 CFR 122.44(d)(1), whole effluent toxicity testing has been established for Outfall 001 (See Section VIII.E below).

Below is a summary of the effluent limitations proposed in the draft permit:

Outfall 001 – The continuous discharge of treated process wastewater, process area stormwater, utility wastewater (consisting of cooling tower blowdown and boiler blowdown), incinerator scrubber blowdown, contaminated groundwater, landfill leachate and sanitary wastewater

Paramater	Monthly Avg. (lbs/day)	Daily Max. (lbs/day)	Frequency	Sample Type
Flow-MGD	Report	Report	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	---	0(*1)	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	---	446(*1)	Continuous	Recorder
pH Min/Max Values00400 (Standard Units)	Report (Min)	Report (Max)	Continuous	Recorder
BOD_5	3874	8385	2/week	24-hr. Composite
TSS	2173	6987	2/week	24-hr. Composite
Oil & Grease	778	1447	2/week	Grab
TOC	8522	18447	2/week	24-hr. Composite
Ammonia (as N)	1350	2932	2/month	24-hr. Composite
Sulfide (as S)	10.0	21.0	2/week	Grab
Phenolic Compounds	15.0	33.0	2/week	Grab
METALS AND CYANIDE				
Total Copper	38.31	89.30	1/month	24-hr. Composite
Total Zinc	27.74	68.96	2/month	24-hr. Composite
VOLATILE COMPOUNDS				
Acrylonitrile	3.88	9.79	1/year	24-hr. Composite
Benzene	1.50	5.50	1/quarter	24-hr. Composite
Carbon Tetrachloride	0.73	1.54	1/quarter	24-hr. Composite
Chlorobenzene	0.61	1.13	1/year	24-hr. Composite
Chloroethane	4.21	10.84	1/year	24-hr. Composite
Chloroform	0.85	1.86	1/year	24-hr. Composite
1,1-Dichloroethane	0.89	2.39	1/year	24-hr. Composite
1,2-Dichloroethane	2.75	8.53	1/quarter	24-hr. Composite
1,1-Dichloroethylene	0.65	1.01	1/year	24-hr. Composite
1,2-trans-Dichloroethylene	0.85	2.18	1/year	24-hr. Composite
1,2-Dichloropropane	6.19	9.30	1/quarter	24-hr. Composite
1,3-Dichloropropylene	1.17	1.78	1/quarter	24-hr. Composite
Ethylbenzene	1.29	4.37	1/quarter	24-hr. Composite
Methyl Chloride	3.48	7.69	1/year	24-hr. Composite
Methylene Chloride	1.62	3.60	1/year	24-hr. Composite
Tetrachloroethylene	0.89	2.27	1/year	24-hr. Composite
Toluene	1.05	3.24	1/year	24-hr. Composite
1,1,1-Trichloroethane	0.85	2.18	1/year	24-hr. Composite
1,1,2-Trichloroethane	0.85	2.18	1/year	24-hr. Composite
Trichloroethylene	0.85	2.18	1/year	24-hr. Composite

Vinyl Chloride	4.21	10.84	1/year	24-hr. Composite
ACID COMPOUNDS				
2-Chlorophenol	1.25	3.96	1/year	24-hr. Composite
2,4-Dichlorophenol	1.58	4.53	1/year	24-hr. Composite
2,4-Dimethylphenol	0.73	1.46	1/year	24-hr. Composite
4,6-Dinitro-o-Cresol	3.15	11.20	1/year	24-hr. Composite
2,4-Dinitrophenol	2.87	4.98	1/year	24-hr. Composite
2-Nitrophenol	1.66	2.79	1/year	24-hr. Composite
4-Nitrophenol	2.91	5.02	1/year	24-hr. Composite
Phenol	0.61	1.05	1/quarter	Grab
BASE NEUTRAL COMPOUNDS				
Acenaphthene	0.89	2.39	1/year	24-hr. Composite
Acenaphthylene	0.89	2.39	1/year	24-hr. Composite
Anthracene	0.89	2.39	1/year	24-hr. Composite
Benzo(a)anthracene	0.89	2.39	1/year	24-hr. Composite
Benzo(a)pyrene	0.93	2.47	1/year	24-hr. Composite
3,4-Benzofluoranthene	0.93	2.47	1/year	24-hr. Composite
Benzo(k)fluoranthene	0.89	2.39	1/year	24-hr. Composite
Bis(2-ethylhexyl) phthalate	4.17	11.29	1/year	24-hr. Composite
Chrysene	0.89	2.39	1/year	24-hr. Composite
1,2-Dichlorobenzene	3.11	6.59	1/year	24-hr. Composite
1,3-Dichlorobenzene	1.25	1.78	1/year	24-hr. Composite
1,4-Dichlorobenzene	0.61	1.13	1/year	24-hr. Composite
Diethyl phthalate	3.28	8.21	1/year	24-hr. Composite
Dimethyl phthalate	0.77	1.90	1/year	24-hr. Composite
Di-n-butyl phthalate	1.09	2.31	1/year	24-hr. Composite
2,4-Dinitrotoluene	4.57	11.53	1/year	24-hr. Composite
2,6-Dinitrotoluene	10.31	25.93	1/year	24-hr. Composite
Fluoranthene	1.01	2.75	1/year	24-hr. Composite
Fluorene	0.89	2.39	1/year	24-hr. Composite
Hexachlorobenzene	0.49	1.13	1/year	24-hr. Composite
Hexachlorobutadiene	0.81	1.98	1/year	24-hr. Composite
Hexachloroethane	0.85	2.18	1/year	24-hr. Composite
Naphthalene	0.89	2.39	1/quarter	24-hr. Composite
Nitrobenzene	1.09	2.75	1/year	24-hr. Composite
Phenanthrene	0.89	2.39	1/year	24-hr. Composite
Pyrene	1.01	2.71	1/year	24-hr. Composite
1,2,4-Trichlorobenzene	2.75	5.66	1/year	24-hr. Composite
Whole Effluent Toxicity Testing	---	---	1/year	24-hr. Composite

(*1) The pH shall be within the range of 6.0 – 9.0 standard units at all times subject to continuous monitoring pH range excursion provisions. Where a permittee continuously measures the pH of wastewater as a requirement or option in an LPDES permit, the permittee shall maintain the pH of such wastewater within the range set forth in the permit, except that excursions from the range are permitted, provided:

1. The total time during which the pH values are outside the required range of pH values shall not exceed 446 minutes in any calendar month; and
2. No individual excursion from the range of pH values shall exceed 60 minutes.

EFFLUENT LIMITATIONS BASIS for Outfall 001:

Flow: The requirement to report flow is based upon LAC 33:IX.2707.I.1.b. and the previous permit.

pH: Requirements are based upon the previous permit and LAC 33:IX.1113.C.1.

BOD, TSS, Oil & Grease, Ammonia, Sulfide, Phenolic Compounds, Total Copper, Total Zinc and toxic organics: Limitations are based upon a combination of 40 CFR 419 Subpart C; 40 CFR 414 Subparts E, G, H, and I; and BPJ. See Appendix A for more detail on calculation of the limitations.

TOC: The mass limitations for TOC were calculated based upon the previous permit. In the previous permit a TOC:BOD ratio of 2.2 was established. This ratio has been retained in the permit renewal. See Appendix A for more information on calculation of the limitations

Whole Effluent Toxicity Testing: See Section E below for justification of requirements.

SITE-SPECIFIC CONSIDERATIONS

1. Allocation of refinery limits for Shell Chemical LP

The Motiva Norco Refinery sends an estimated 3.17 MGD of process wastewater from the refinery to the Shell Chemical LP wastewater treatment plant for treatment and discharge under LA0005762. Therefore, in the previous permits for Motiva and Shell, Motiva's refinery guideline limits were divided between the Motiva permit (LA0003522) and the Shell Chemical permit (LA0005762). The allocations were based on the proportion of refinery wastewater flow and TOC loadings sent to the Shell Chemical Plant's wastewater treatment system (the biotreater).

The percentage of loading allocations established in the Motiva and Shell permits were originally developed by EPA Region VI during the renewal permit process in 1989. These allocations were retained by LDEQ in the 2002 permit renewals, with the exception of sulfide. The sulfide allocation percentage changed in 2002 because the applicant asked that the Motiva allocation percentage for sulfide be changed to 60%. All allocation percentages from the previous 2002 LPDES permit have been retained in the current permit.

Below is a summary of the allocation percentages:

Parameter	% Allocated to Motiva site (LA0003522 – Outfall 002)	% Allocated to Shell site (LA0005762 – Outfall 001)
BOD_5	48%	52%
TSS	100%	0%
Oil & Grease	48%	52%
TOC	48%	52%
Ammonia	48%	52%
Sulfide	60%	40%
Phenolic Compounds	48%	52%
Chromium (Total)	100%	0%
Chromium (6+)	100%	0%

2. BPJ Allocations

Calcium Chloride Process Wastewater

The facility manufactures calcium chloride. Discharges resulting from the production of calcium chloride by the brine extraction process are subject to effluent limitations guidelines for inorganic chemicals (40 CFR 415, Subpart D). However, the facility manufactures calcium chloride from feedstocks from the ECH Unit; the facility does not use the brine extraction process. Therefore, the 40 CFR 415, Subpart D guidelines do not apply. Permit effluent limitation allocations for the calcium chloride process wastewater discharges are determined by BPJ. The OCPSF guidelines values for BOD and TSS are used for the calcium chloride wastewater on a BPJ basis. See Appendix A for calculations.

Toxic Metals

Regulations promulgated at 40 CFR Part 414.101(b) require effluent limits to be established for metal-bearing waste streams listed at Appendix A of 40 CFR Part 414. The previous permit established metal bearing allocations for MEK and refinery flows. Since that time, the MEK process has been shut down. Therefore, in the current permit, only BPJ allocations for copper and zinc for the refinery wastewaters have been established in the permit. The LPDES draft permit calculated mass limits for copper and zinc using the

refinery flow of 3.17 MGD. See Appendix A for calculations.

Utility Wastewater

As in the previous permit, utility wastewaters consisting of cooling tower blowdown and boiler blowdown are included as a part of the process wastewater stream and have received BPJ allocations for BOD_5 and TSS loadings. These allowances grant an average concentration of 5 mg/L and a maximum concentration of 10 mg/L of BOD_5 for these utility wastestreams. For TSS, the OCPSF guideline values were used on a BPJ basis. See Appendix A for calculations.

Landfill Leachate Wastewater

As in the previous permit, landfill leachate wastewaters (which are routed to the Shell site from Motiva), are included as a part of the process wastewater stream and have received BPJ allocations for pollutant loadings. The OCPSF guideline values for BOD_5, TSS, and toxic organics are applied to the landfill leachate wastewater on a BPJ basis. The allocations for landfill leachate have increased significantly because in the previous permit, the flow rate was based upon gravity flow of storm water from one cell. The new flow rate is based on the landfill leachate pump capacity for the previously permitted cell and flow from a new cell of the landfill. See Appendix A for calculations.

Contaminated Groundwater

As in the previous permit, contaminated groundwater is included as a part of the process wastewater stream and has received BPJ allocations for pollutant loadings. The OCPSF guideline values for BOD_5, TSS, and toxic organics are applied to the contaminated groundwater on a BPJ basis. See Appendix A for calculations.

Sanitary Wastewater

As in the previous permit, treated sanitary wastewater has been included as a part of the process wastewater stream and has received BPJ allocations for BOD_5 and TSS loadings. For BOD_5 and TSS, average concentrations of 30 mg/L and maximum concentrations of 45 mg/L were used. See Appendix A for calculations.

Outfall 003 – The intermittent discharge of low contamination potential non-process area stormwater
Outfall 004 - The intermittent discharge low contamination potential non-process area stormwater
Outfall 005 - The intermittent discharge low contamination potential non-process area stormwater
Outfall 006 - The intermittent discharge low contamination potential non-process area stormwater
Outfall 007 - The intermittent discharge low contamination potential non-process area stormwater

Paramater	Monthly Avg. (mg/l)	Daily Max. (mg/l)	Frequency	Sample Type
Flow-MGD	Report	Report	1/quarter	Estimate
TOC	---	50	1/quarter	Grab
Oil & Grease	---	15	1/quarter	Grab
pH Min/Max Values (Standard Units)	6.0 (Min)	9.0 (Max)	1/quarter	Grab
Total Copper	---	Report	1/quarter	Grab

EFFLUENT LIMITATIONS BASIS for Outfalls 003, 004, 005, 006 and 007:

Flow: The requirement to report flow is based upon LAC 33:IX.2707.I.1.b.

TOC and Oil & Grease: Limitations are based upon the previous permit and LDEQ's stormwater guidance [letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)].

Total Copper: For the purpose of collecting data that may be used in future permitting decisions and/or TMDL development, total copper monitoring and reporting requirements have been established in the permit.

pH: Requirements are based upon the previous permit and LAC 33:IX.1113.C.1.

D. MONITORING FREQUENCIES

All monitoring frequencies are based upon the previous permit. Whole Effluent Toxicity testing frequency is based upon recommendations from the Municipal and General Water Permits Section (see Appendix D).

E. BIOMONITORING REQUIREMENTS

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall 001 are as follows:

TOXICITY TESTS	FREQUENCY
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 48-Hour Acute, Pimephales promelas	1/year
NOEC, Value [%], Lethality, Static Renewal, 48-Hour Acute, Pimephales promelas	1/year
NOEC, Value [%] Coefficient of Variation, Static Renewal 48-Hour Acute, Pimephales promelas	1/year
NOEC, Pass/Fail [0/1], Lethality, Static Renewal 48-Hour Acute, Daphnia pulex	1/year
NOEC, Value [%], Lethality, Static Renewal 48-Hour Acute Daphnia pulex	1/year

NOEC, Value [%] 1/year
Coefficient of Variation, Static Renewal
48-Hour Acute,
Daphnia pulex

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to this Office. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. The additional effluent concentrations shall be 0.15%, 0.20%, 0.26%, 0.35%, and 0.47% effluent. The biomonitoring critical dilution is defined as 0.35% effluent.

IX. Compliance History/DMR Review:

Shell Chemical, LP was issued a Settlement Agreement (SA-AWE-06-0052) on May 7, 2007. This agreement settled several air and water enforcement actions relating to various Shell Chemical LP sites (Norco, Taft, St. Rose and Geismar). The water enforcement actions addressed in the settlement agreement that was related to the Norco facility included a Consolidated Compliance Order and Notice of Potential Penalty (WE-CN-00-0279...issued

November 27, 2001). The settlement agreement stated that with regards to this Order (WE-CN-00-0279), it specifically intended to resolve the pending administrative hearing request and proceedings filed by the respondent to challenge the Order. The Order (WE-CN-00-0279) was formally dismissed on June 11, 2007.

DMR Review (excursions for the period January 2005 - February 2008):

Date	Parameter	Outfall	Reported (lbs/day)	Permit Limit (lbs/day)
1/31/06	TSS	001	3650 : 13037	2103 : 6760
9/30/06	Naphthalene	001	1.86 : 1.86	0.86 : 2.30
12/31/06	TSS	001	2012 : 8044	2103 : 6760
5/31/07	TSS	001	2362 : 7749	2103 : 6760
10/31/07	Total Sulfide	001	8.1 : 30.2	8.4 : 18.8

X. Endangered Species:

The receiving waterbodies for Shell Chemical LP are Subsegment 070301 of the Mississippi River Basin and Segment 041202 of the Lake Pontchartrain Basin. Segment 041202 is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). However, Segment 070301 of the Mississippi River Basin has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the Pallid Sturgeon, which is listed as a threatened or endangered species. This draft permit has been submitted to the FWS for review in accordance with a letter dated October 24, 2007 from Boggs (FWS) to Brown (LDEQ). As set forth in the Memorandum of Understanding between the LDEQ and the FWS, and after consultation with FWS, LDEQ has determined that the issuance of the LPDES permit is not likely to have an adverse effect upon the Pallid Sturgeon. Effluent limitations are established in the permit to ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. The more stringent of technology and water quality based limits (as applicable) have been applied to ensure maximum protection of the receiving water.

XI. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XII. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharges described in the application.

XIII. Variances:

No requests for variances have been received by this Office.

XIV. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

A public notice will be published in a local newspaper of general circulation and in the Office of Environmental Services Public Notice Mailing List.

XV. TMDL Waterbodies:

Shell Chemical LP discharges process wastewaters, utility wastewaters, stormwater, miscellaneous wastewaters and sanitary wastewaters to the Mississippi River (Segment 070301). Segment 070301 is not listed on LDEQ's Final 2006 303(d) List, as impaired, and to date no TMDLs have been established.

Shell Chemical LP also has stormwater discharges to Subsegment 041202. Subsegment 041202 of the Lake Pontchartrain Basin is listed on LDEQ's 2006 303(d) List as impaired for copper. To date, no TMDLs have been completed. TMDLs are scheduled for completion by March 31, 2011, with an EPA backstop date of March 31, 2012. This Office has determined that due to the nature of the discharges from Outfalls 003, 004, 005, 006 and 007, there is no reasonable potential to discharge copper at a level which would cause further impairment of the receiving waterbody. For the purpose of collecting data that may be used in future permitting decisions and/or TMDL development, total copper monitoring and reporting requirements have been established in the permit.

A reopener clause will be included in the permit to allow for the establishment of more stringent effluent limitations and requirements as imposed by any future TMDLs.

XVI. Stormwater Pollution Prevention Plan (SWP3) Requirements:

In accordance with LAC 33:IX.2707.I.3 and 4[40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all stormwater discharges from the facility, either through permitted outfalls, through outfalls which are not listed in the permit or as sheet flow. The Part II condition requires implementation of a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit, along with other requirements. If the permittee maintains other plans that contain duplicative information, that plan could be incorporated by reference into the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of storm water associated with industrial activity, as defined at LAC 33:IX.2511.B.14 [40 CFR 122.26(b)(14)].